

## § 784.20

## 30 CFR Ch. VII (7–1–13 Edition)

the fill and appurtenant structures. The information submitted must include—

(i) The character of the bedrock and any adverse geologic conditions in the proposed disposal area.

(ii) A survey identifying all springs, seepage, and groundwater flow observed or anticipated during wet periods in the area of the proposed disposal site.

(iii) A survey of the potential effects of subsidence of subsurface strata as a result of past and future mining operations.

(iv) A technical description of the rock materials to be utilized in the construction of disposal structures containing rock chimney cores or underlain by a rock drainage blanket.

(v) A stability analysis including, but not limited to, strength parameters, pore pressures, and long-term seepage conditions. This analysis must be accompanied by a description of all engineering design assumptions and calculations and the alternatives considered in selecting the design specifications and methods.

(7) *Operation and reclamation plans.* Plans for the construction, operation, maintenance, and reclamation of all excess spoil disposal structures in accordance with the requirements of §§ 817.71 through 817.74 of this chapter.

(8) *Additional requirements for keyway cuts or rock-toe buttresses.* If keyway cuts or rock-toe buttresses are required under § 817.71(d) of this chapter, the number, location, and depth of borings or test pits, which must be determined according to the size of the spoil disposal structure and subsurface conditions. You also must provide the engineering specifications used to design the keyway cuts or rock-toe buttresses. Those specifications must be based upon the stability analysis required under paragraph (a)(7)(v) of this section.

(b) *Design certification.* A qualified registered professional engineer experienced in the design of earth and rock fills must certify that the design of all fills and appurtenant structures meets the requirements of this section.

[73 FR 75880, Dec. 12, 2008]

### § 784.20 Subsidence control plan.

(a) *Pre-subsidence survey.* Each application must include:

(1) A map of the permit and adjacent areas at a scale of 1:12,000, or larger if determined necessary by the regulatory authority, showing the location and type of structures and renewable resource lands that subsidence may materially damage or for which the value or reasonably foreseeable use may be diminished by subsidence, and showing the location and type of drinking, domestic, and residential water supplies that could be contaminated, diminished, or interrupted by subsidence.

(2) A narrative indicating whether subsidence, if it occurred, could cause material damage to or diminish the value or reasonably foreseeable use of such structures or renewable resource lands or could contaminate, diminish, or interrupt drinking, domestic, or residential water supplies.

(3) A survey of the condition of all non-commercial buildings or occupied residential dwellings and structures related thereto, that may be materially damaged or for which the reasonably foreseeable use may be diminished by subsidence, within the area encompassed by the applicable angle of draw; as well as a survey of the quantity and quality of all drinking, domestic, and residential water supplies within the permit area and adjacent area that could be contaminated, diminished, or interrupted by subsidence. If the applicant cannot make this survey because the owner will not allow access to the site, the applicant will notify the owner, in writing, of the effect that denial of access will have as described in § 817.121(c)(4) of this chapter. The applicant must pay for any technical assessment or engineering evaluation used to determine the pre-mining condition or value of such non-commercial buildings or occupied residential dwellings and structures related thereto and the quantity and quality of drinking, domestic, or residential water supplies. The applicant must provide copies of the survey and any technical assessment or engineering evaluation to the property owner and regulatory authority. However, the requirements to perform a survey of the condition of all

noncommercial buildings or occupied residential dwellings and structures related thereto, that may be materially damaged or for which the reasonably foreseeable use may be diminished by subsidence, within the areas encompassed by the applicable angle of draw is suspended per court order.

(b) *Subsidence control plan.* If the survey conducted under paragraph (a) of this section shows that no structures, or drinking, domestic, or residential water supplies, or renewable resource lands exist, or that no material damage or diminution in value or reasonably foreseeable use of such structures or lands, and no contamination, diminution, or interruption of such water supplies would occur as a result of mine subsidence, and if the regulatory authority agrees with this conclusion, no further information need be provided under this section. If the survey shows that structures, renewable resource lands, or water supplies exist and that subsidence could cause material damage or diminution in value or reasonably foreseeable use, or contamination, diminution, or interruption of protected water supplies, or if the regulatory authority determines that damage, diminution in value or foreseeable use, or contamination, diminution, or interruption could occur, the application must include a subsidence control plan that contains the following information:

(1) A description of the method of coal removal, such as longwall mining, room-and-pillar removal or hydraulic mining, including the size, sequence and timing of the development of underground workings;

(2) A map of the underground workings that describes the location and extent of the areas in which planned subsidence mining methods will be used and that identifies all areas where the measures described in paragraphs (b)(4), (b)(5), and (b)(7) of this section will be taken to prevent or minimize subsidence and subsidence-related damage; and, when applicable, to correct subsidence-related material damage;

(3) A description of the physical conditions, such as depth of cover, seam thickness and lithology of overlying strata, that affect the likelihood or ex-

tent of subsidence and subsidence-related damage;

(4) A description of the monitoring, if any, needed to determine the commencement and degree of subsidence so that, when appropriate, other measures can be taken to prevent, reduce or correct material damage in accordance with §817.121(c) of this chapter;

(5) Except for those areas where planned subsidence is projected to be used, a detailed description of the subsidence control measures that will be taken to prevent or minimize subsidence and subsidence-related damage, such as, but not limited to:

(i) Backstowing or backfilling of voids;

(ii) Leaving support pillars of coal;

(iii) Leaving areas in which no coal is removed, including a description of the overlying area to be protected by leaving coal in place; and

(iv) Taking measures on the surface to prevent or minimize material damage or diminution in value of the surface;

(6) A description of the anticipated effects of planned subsidence, if any;

(7) For those areas where planned subsidence is projected to be used, a description of methods to be employed to minimize damage from planned subsidence to non-commercial buildings and occupied residential dwellings and structures related thereto; or the written consent of the owner of the structure or facility that minimization measures not be taken; or, unless the anticipated damage would constitute a threat to health or safety, a demonstration that the costs of minimizing damage exceed the anticipated costs of repair;

(8) A description of the measures to be taken in accordance with §§817.41(j) and 817.121(c) of this chapter to replace adversely affected protected water supplies or to mitigate or remedy any subsidence-related material damage to the land and protected structures; and

(9) Other information specified by the regulatory authority as necessary to demonstrate that the operation will be conducted in accordance with §817.121 of this chapter.

[60 FR 16748, Mar. 31, 1995 as amended at 64 FR 71653, Dec. 17, 1999]